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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Robert F. Balint, *et al.*

Continuation of Application  
No.: 09/526,106

Filed: March 15, 2000

For: BREAKPOINT FUSION  
FRAGMENT COMPLEMENTATION  
SYSTEM

Examiner: Epperson, Jon D.

Art Unit: 1639

**INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR §1.97 and  
§1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. In accordance with 37 CFR §1.98(d), copies of the references can be found in Application No. 09/526,106, filed March 15, 2000 and Application No. 09/764,163, filed January 16, 2001 (Attorney Docket Nos. 021167-000700US and 021167-000710US). It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Kenneth E. Jenkins, Ph.D.  
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Substitute for form 1449/PTO				<b>Complete if Known</b>	
				Application Number	Continuation of 09/526,106
				Filing Date	March 15, 2000
				First Named Inventor	Balint, Robert F.
				Art Unit	1639
				Examiner Name	Epperson, Jon D.
Page	3	of	6	Attorney Docket Number	021167-000750US

<b>U.S. PATENT DOCUMENTS</b>					
		Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Examiner	Cite No. <sup>1</sup>	Number Kind Code <sup>2</sup> (if known)			
	AA	US-5,585,245	12/17/1996	Johnsson, et al.	
	AB	US-6,270,964 B1	08/07/2001	Michnick, et al.	
	AC	US-6,294,330	09/25/2001	Michnick, et al.	

<b>FOREIGN PATENT DOCUMENTS</b>								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	AD	WO	95/29195	A1	11/02/1995	California Institute of Technology		<input type="checkbox"/>
	AE	WO	96/30540	A2	10/03/1996	The Regents of the University of California		<input type="checkbox"/>
	AF	WO	98/34120	A1	08/06/1998	Universite De Montreal		<input type="checkbox"/>
	AG	WO	98/44350	A1	10/08/1998	The Board of Trustees of the Leland Stanford Junior University		<input type="checkbox"/>
	AH	WO	99/28746	A1	06/10/1999	Institute Pasteur		<input type="checkbox"/>
	AI	WO	00/07038	A3	02/10/2000	Universite De Montreal		<input type="checkbox"/>
	AJ	WO	00/71565	A2	11/30/2000	The Regents of the University of California		<input type="checkbox"/>

<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>2</sup>
	AK	Amndt et al., "A Heterodimeric Colled-coil Peptide Pair Selected <i>in Vivo</i> from a Designed Library-versus-Library Ensemble", <i>J. Mol. Biol.</i> 295: 627-639 (2000).			
	AL	Bartel, et al., "A protein linkage map of <i>Escherichia coli</i> bacteriophage T7," <i>Nature Genetics</i> , 12:72 (January 12, 1996).			
	AM	Baird et al., "Circular permutation and receptor insertion within green fluorescent proteins", <i>Proc. Natl. Acad. Sci. USA</i> 96: 11241-11246 (1999).			

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<sup>2</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Page	4	of	6	First Named Inventor	Balint, Robert F.
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				Examiner Name	Epperson, Jon D.
				Attorney Docket Number	021167-000750US

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	AN	Bartel, <i>et al.</i> , "Short Technical Reports; Elimination of false positives that arise in using the two-hybrid system," <i>Biotechniques</i> , 14(6):920 (1993).		
	AO	Betton <i>et al.</i> , "Creating a bifunctional protein by insertion of $\beta$ -lactamase into the maltodextrin-binding protein", <i>Nature Biotechnology</i> 15: 1276-1279 (1997).		
	AP	Blackwood, <i>et al.</i> , "Max: A helix-loop-helix zipper protein that forms a sequence-specific DNA-binding complex with myc," <i>Science</i> , 251:1211 (March 8, 1991).		
	AQ	Chien, <i>et al.</i> , "The two-hybrid system: A method to identify and clone genes for proteins that interact with a protein of interest," <i>Proc Natl Acad Sci</i> , 88:9578 (1991).		
	AR	Cubitt, <i>et al.</i> , "Understanding, improving and using green fluorescent proteins," <i>Trends Biochem</i> , 20:448 (November 1995).		
	AS	Defeo-Jones, <i>et al.</i> , "Cloning of cDNAs for cellular proteins that bind to the retinoblastoma gene product," <i>Nature</i> , 352:251 (July 18, 1991).		
	AT	Fields, <i>et al.</i> , "A novel genetic system to detect protein-protein interactions," <i>Nature</i> , 340:245 (July 20, 1989).		
	AU	Fromont-Racine, <i>et al.</i> , "Toward a functional analysis of the yeast genome through exhaustive two-hybrid screens, <i>Nature Genetics</i> , 16:277 (July 1997).		
	AV	Johnsson, <i>et al.</i> , "Split ubiquitin as a sensor of protein interactions <i>in vivo</i> ," <i>Proc Natl Acad Sci</i> , 91:10340-10344 (October 1994).		
	AW	Karimova, <i>et al.</i> , "A bacterial two-hybrid system based on a reconstituted signal transduction pathway," <i>Proc Natl Acad Sci</i> , 95:5752-5756 (May 1998).		
	AX	Krebber, <i>et al.</i> , "Selectively-infective Phase (SIP): A mechanistic dissection of a novel <i>in vivo</i> selection for protein-ligand interactions," <i>J Mol Biol</i> , 268:607-618 (1997).		
	AY	Krebber, <i>et al.</i> , "Reliable cloning of functional antibody variable domains from hybridomas and spleen cell repertoires employing a reengineered phage display system," <i>J. Immunol. Methods</i> , 201:35-55 (1997).		
	BA	Luban, <i>et al.</i> , "Human Immunodeficiency Virus Type 1 Gag Protein Binds to Cyclophilins A and B", <i>Cell</i> , 73:1067-1078 (1993).		
	BB	Michnick <i>et al.</i> , "Detection of Protein-Protein Interactions by Protein Fragment Complementation Strategies", <i>Methods in Enzymology</i> 328: 208-231 (2000).		

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			Examiner Name	Epperson, Jon D.
Page	5	of	6	Attorney Docket Number
021167-000750US				

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Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
	BC	Ostermeier, et al., "Combinatorial protein engineering by incremental truncation," <u>Proc Natl Acad Sci</u> , 96(7):3562-3567 (March 1999).		
	BD	Ostermeier, et al., "Finding Cinderella's slipper-- proteins that fit," <u>Nature Biotechnology</u> , 17:639-640 (July, 1999).		
	BE	Ostermeier, et al., "A combinatorial approach to hybrid enzymes independent of DNA homology," <u>Nature Biotechnology</u> , 17(12):1205-1209 (December 1999).		
	BF	Pelletier, et al., "Oligomerization domain-directed reassembly of active dihydrofolate reductase from rationally designed fragments," <u>Proc Natl Acad Sci</u> , 95:12141-12146 (October 1998).		
	BG	Pelletier, et al., "A protein complementation assay for detection of protein-protein interactions <i>in vivo</i> ," <u>Protein Engineering</u> , 10:89 (1997).		
	BH	Pelletier, et al., "An <i>in vivo</i> library-versus-library selection of optimized protein-protein interactions", <u>Nature Biotechnology</u> 17: 683-689 (1999).		
	BI	Pieper, et al., "Circularly permuted $\beta$ -lactamase from <i>Staphylococcus aureus</i> PC1," <u>Biochemistry</u> , 36(29):8767-8774 (1997).		
	BJ	Remy et al., "Erythropoietin Receptor Activation by a Ligand-Induced Conformation Change", <u>Science</u> 283: 990-993 (1999).		
	BK	Remy et al. "Visualization of biochemical networks in living cells", <u>Proc. Natl. Acad. Sci. USA</u> 98:14: 7678-7683 (2001).		
	BL	Remy et al. "Clonal selection and <i>in vivo</i> quantitation of protein interactions with protein-fragment complementation assays", <u>Proc. Natl. Acad. Sci. USA</u> 96: 5394-5399 (1999).		
	BM	Rossi, et al., "Monitoring protein-protein interactions in intact eukaryotic cells by $\beta$ -galactosidase complementation," <u>Proc Natl Acad Sci</u> , 94:8405-8410 (August 1997).		
	BN	Subramaniam et al., "Direct visualization of protein interactions in plant cells", <u>Nature Biotechnology</u> 19: 769-772 (2001).		
	BO	Vojtek, et al., "Mammalian Ras Interacts Directly with the Serine/Threonine Kinase Raf", <u>Cell</u> , 74:205-214 (1993).		
	BP	Xu, et al., "Cells that register logical relationships among proteins," <u>Proc Natl Acad Sci</u> , 94:12473 (November 1997).		

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	BQ	Zervos, et al., "Mxi1, a Protein That Specifically Interacts with Max to Bind Myc-Max Recognition Sites", <i>Cell</i> , 72:223-232 (1993).			

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